

ABSTRACT OF THE DISCLOSURE

A combination energy absorption and environmental insulating barrier incorporated into a vehicle door trim panel assembly. A thermoformed and hardened shell has an exterior facing surface and an opposite recessed interior facing surface. A three-dimensional structural component is constructed of a durable plasticized and expanded foam material and exhibiting the properties of moisture imperviousness and impact resistance. The structural component has a specified length, width and thickness and is configured to substantially seat against the recessed interior facing surface of the shell. A dimensional misalignment tolerancing being established between the opposing facing surfaces of the thermoformed shell and the expanded structural component and owing to tolerancing vagaries associated with the expanded foam of the structural component. An exposed facing surface of the structural component secures against an inner associated surface of a vehicle door.